

## ABSTRACT

Embodiments include methods for manufacturing semiconductor devices and semiconductor devices in which an extension region, a source region and a drain region can be simultaneously formed. One method for manufacturing a semiconductor device includes

- 5 (a) forming a gate dielectric layer 20 over a semiconductor substrate 10; (b) forming a gate electrode 22 over the gate dielectric layer 20; (c) forming an extension control layer 40 over the semiconductor substrate 10 on sides of the gate dielectric layer 20; and (d) forming a source region 24 and a drain region 26 by ion-implanting an impurity 80 in the semiconductor substrate 10, wherein an extension region 30 is formed in the semiconductor  
10 substrate 10 below the extension control layer 40 with the source region 24 and the drain region 26.

[illegible]